

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-29 are pending in this present application. Claims 1, 10, 12, 18, 20, 26 and 28 are amended by the present amendment.

Claims 1, 3, 10, 12, 18, 20, 23, 26 and 28 were rejected under 35 U.S.C. § 103(a) as unpatentable over applicants' admitted art in view of Aoki (JP 54097712). Claims 2, 8, 13, 17, 21 and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over the admitted art in view of Aoki and Suzuki (U.S. Patent No. 5,119,466). Claims 4 and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over the admitted art in view of Aoki and Ohtake et al. (U.S. Patent No. 5,598,045, herein "Ohtake"). Claims 5, 9, 7, 11, 15, 19, 22, 25, 27 and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over the admitted art in view of Aoki and Fassel et al. (U.S. Patent No. 4,514, 670, herein "Fassel"). Claims 6 and 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over the admitted art in view of Aoki, Ohtake and Fassel.

Claims 1, 3, 10, 12, 18, 20, 23, 26 and 28 were rejected over the admitted art in view of Aoki. That rejection is respectfully traversed.

Amended independent Claim 1 is directed to a direct current motor having a commutator that includes a contact electrode part formed with a plane conductive layer pattern and connected to rotor coils. The contact electrode part and the plane conductive layer pattern are directly formed on one surface of an electrical parts mounting base board. A pair of electrode brushes are in sliding contact with the contact electrode part of the commutator and are configured to supply electric power to the rotor coils through the commutator. Amended independent Claims 10, 12, 18, 20, 26 and 28 include similar features

regarding the contact electrode part and the plane conductive layer pattern being directly formed on the same surface of an electrical parts mounting base board.

In a non-limiting example, Figures 1 and 2 illustrate a flat disc-shaped printed circuit board 23 fixed on the rotation shaft 21 such that the rotation shaft perpendicularly intersects the printed circuit board 23 (see also the specification at page 10, lines 6-8). Further, a commutator includes contact electrode parts 23a formed of a conductive foil (plane conductive layer pattern) on *one surface* (emphasis added) of the flat disc-shaped printed circuit board 23. The electrode brushes 16, which are previously fixed to the support base 13, press the surface of the contact electrode parts 23a in the axial direction of the rotation shaft 21 (see also the specification at page 10, lines 17-20).

Aoki does not teach or suggest a commutator that includes a contact electrode part and a plane conductive layer pattern directly formed on one surface of an electrical parts mounting base board. Instead, Aoki discloses a commutator chip 12 in contact with electrode brushes 6 and provided at one side of a commutator base while a spark distinguishing element 13 is provided at the opposite side of the commutator base (Abstract).

As stated in M.P.E.P. §2143, a basic requirement for a *prima facie* case of obviousness is that the prior art reference (or references when combined) must teach or suggest all the claim limitations. As the cited references do not teach or suggest the feature of a commutator that includes a contact electrode part and a plane conductive layer pattern directly formed on one surface of an electrical parts mounting base board, it is respectfully submitted the outstanding Office Action has not created a *prima facie* case of obviousness with regard to independent Claims 1, 10, 12, 18, 20, 26 and 28, and the claims dependent therefrom.

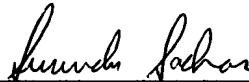
Accordingly, it is respectfully requested this rejection be withdrawn.

Addressing each of the further rejections, each of the further rejections is also traversed by the present response as no teachings in any of the further cited references to Suzuki, Ohtake and Fassel can overcome the above-noted deficiencies of Aoki. Accordingly, it is respectfully requested that those rejections be withdrawn for similar reasons as discussed above.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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